



Combat Engineers in World War II

Amphibious engineers put assault troops ashore on Wakde Island, New Guinea, May 18, 1944.



As Japanese forces pressed their attacks in China and Hitler increased his territorial demands in Central Europe in mid-1939, the U.S. Army Corps of Engineers numbered less than 800 officers and 6,000 enlisted men in active Regular Army service. During the preceding 17 years, since the withdrawal in 1922 of engineer troops from Coblenz, Germany, where they had occupied territory along the Rhine River, the Army had maintained in active service only eight or nine combat engineer regiments, two engineer squadrons and a single topographic battalion. It staffed even this short troop list at only some 70 percent of authorized strength. Engineer officers thus spent most of their time during the 1920s and 1930s administering the Corps' civil works program, whose budget in 1938 was nearly 400 times greater than its military budget.

Engineer military mobilization began in earnest in mid-1940 after the German conquest of France. During late 1940 and early 1941 the Army inducted 18 National Guard divisions, each containing an engi-

neer combat regiment, and their men began to undergo intensive training. The Army quickly organized engineer aviation companies and battalions to build the airfields needed to defend the Western Hemisphere. Blacks joined the Army in unprecedented numbers in 1940 and 1941, and many were assigned to engineer units. Black soldiers, who numbered 20 percent of Corps personnel by the war's end, were assigned to segregated units usually in the construction field, but they were trained by white officers such as Major (later General) Andrew Goodpaster.

Initiated well before the attack at Pearl Harbor, engineer research and development projects directed by the Engineer Board at Fort Belvoir, Virginia, would have a significant impact upon the war. Experiments conducted during 1940 and 1941 developed a light and inexpensive pierced-steel plank mat that the Army Air Forces would widely use to provide safe, stable landing fields for American planes. Spurred by the ideas of Engineer Captain (later General) Bruce Clarke, Engineer Board studies perfected a new



167th Engineer Combat Battalion, 1117th Engineer Group, builds the first Bailey bridge across the Rhine at Wesel, Germany, March 26, 1945.

Half-tracks cross the Seine on a ponton bridge, August 1944.

steel treadway bridge constructed on pneumatic floats that would carry heavy modern tanks across the rivers of Europe. And it was the Engineer Board that produced by 1943 a tank dozer capable of knocking over substantial barriers while conducting an armored assault.

When the Japanese bombed military bases in Hawaii and the Philippines on the morning of December 7, 1941, engineer units that had already been deployed to those islands were called upon to respond a few hours later. The 34th Engineers, a combat regiment which had lost some equipment but no casualties during the bombing in Hawaii, worked to maintain roads that were suffering from heavy military traffic. The skimpy, 1,500-man U.S. Army engineer garrison in the Philippines was almost evenly divided between Filipino and American personnel. After Japanese forces landed there on December 10, the engineers destroyed bridges from one end of Luzon to the other to slow the enemy's advance. The engineers later erected a series of defensive lines on the Bataan Peninsula and fought as infantry in these defenses before succumbing to superior Japanese forces in April and May 1942. In the southern Philippines, a number of Army engineers escaped to the mountains of Mindanao, where they worked with Filipino guerrillas and remained active throughout the period of Japanese occupation of the Philippines.

U.S. Army engineers first entered combat against German and Italian forces in North Africa, where they landed in November 1942. During the first five months of 1943, a few units of American engineers assisted U.S. Army movements in the broad deserts and fields of Tunisia, clearing enemy mines and building roads from scratch. Prior to the American attacks on Gafsa and Maknassy in the barren plains of southern

Tunisia, the 1st Engineer Combat Battalion and a company of the 19th Engineer Combat Regiment built combat approach roads through a no-man's land between the combatants, where they were vulnerable to surprise attacks.

After the Allied victory in North Africa, American and British forces landed first in Sicily and then



1st Battalion, 355th Engineers, clears St. Lo for Omaha Beach traffic.

in continental Italy during the summer of 1943. Defended by well-equipped and determined German forces, Italy's mountainous terrain and rapidly flowing rivers challenged the road- and bridge-building skills of the Army engineers. The combat engineers particularly distinguished themselves in the fighting at and just south of the Rapido River in the Army's drive north from Naples. The 48th and 235th

Demolition squad probes for Japanese mines.

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General Dwight D. Eisenhower exhorting paratroopers on D-day, June 6, 1944.

Exploiting Enemy Mistakes: Army Engineers, Meter Beams, and the Advance into Germany.

When the Germans withdrew from northern France in the summer and fall of 1944, they left Cherbourg harbor a shambles. A massive reconstruction job faced engineers with the American forces who occupied the city. The difficulty of obtaining adequate construction materials from the United States only exacerbated the problem. The situation demanded prompt and ingenious improvisation and the Advance Section (ADSEC) Engineers of the Communications Zone were up to the task.

The enemy had made a big mistake at Cherbourg and the engineers turned it to their advantage. Lieutenant General Emerson C. Itschner (Ret.), then a colonel and ADSEC Engineer, recalled the situation: "The Germans were kind enough to leave us a lot of very heavy steel beams, one meter in depth and up to 75 feet long. We had enough of these to bridge from the piles that we drove back to the seawall."

Exploitation of the mistake did not stop with the reopening of the port of Cherbourg. The ADSEC engineers noted that all of the beams bore the name of a single steel mill, Hadir in Differdange, Luxembourg. Right then Itschner decided they would head for Differdange. So, as soon as the town fell, the ADSEC men were there. They were not disappointed: the Hadir plant was intact and the citizens were eager to reopen it. After a little repair and cannibalization, Hadir began once again to produce meter beams. In a short time these beams were put to many important uses including the construction of the massive railroad bridges across the Rhine.

Thus did engineer alertness and ingenuity solve a major supply problem.

secure the top and sides of the mountain. It was in this effort that engineer Sergeant Joe Specker of Odessa, Missouri, having observed an enemy machine-gun nest and several well-placed snipers blocking his company's progress, advanced alone with a machine gun up the rocky slope. Although mortally wounded by intense enemy fire, Specker nevertheless set up and fired his weapon so effectively that the enemy machine gun was silenced and the snipers were forced to withdraw. With this assistance the battalion was able to clear the summit of Mount Porchia. Sergeant Specker was honored by a posthumous award of the Medal of Honor.

More than a dozen U.S. Army Engineer combat battalions landed on the beaches of Normandy during the Allies' assault landing on June 6, 1944. The engineers cleared the beach obstacles and minefields that the Germans had implanted there, absorbing on Omaha Beach substantial casualties including the loss of two battalion commanders. Bulldozer drivers, often working in the face of heavy enemy fire, opened exits up narrow draws through the cliffs lining the beaches. Some of the engineers quickly engaged in combat with the Germans alongside assault infantry teams. In one such action, Lieutenant Robert Ross of the 37th Engineer Combat Battalion took charge of an infantry company that had lost its leaders and led it and his own engineer platoon up the slopes adjoining Omaha Beach, where they killed 40 Germans and captured two machine gun emplacements.

The engineers again provided critical support to the achievement and exploitation of the breakthrough that American forces created in late July 1944 in enemy defenses southwest of St. Lo, France. Army and divisional engineer troops repaired roads and

Connecting sections of 100-foot "snake" torpedo to pulling tank, Gorze, France.



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cleared enemy mine fields in and beyond St. Lo with exceptional speed, and they rapidly bridged the small rivers in the area to maintain the Americans' momentum. After the German line had been effectively pierced, armored division engineers constructed the treadway bridges needed by Patton's tanks in the Third Army's quick pursuit of the retreating Germans across northern France. Engineer general service regiments behind them rapidly reconstructed or replaced railroad bridges that had been destroyed by the retreating Germans. In Lorraine the 130th Engineer General Service Regiment successfully built under heavy artillery fire a 190-foot-long double-triple Bailey bridge that Third Army troops used to cross the Moselle at Thionville, France. This bridge had to reach 10 feet longer than the specified maximum span of such a bridge, but it successfully carried heavy American tanks.

The massive German offensive in the Ardennes forest that began on December 16, 1944, exacted a heavy toll among the sparse American forces surprised in the area. A disproportionate number of those troops were engineers who had been operating sawmills or repairing forest roads, and of necessity these engineer troops were called upon to fight as infantry. The 81st Engineer Combat Battalion, which had been engaged in road maintenance around Auw, Germany, quickly found itself caught in the center of the powerful enemy assault, and

Treadway bridge lowered into place near Moderscheid, Belgium, January 1945.



U.S. Military Academy Library

within a week the Germans had captured or killed a majority of its troops despite their determined combat, notably in the defense of St. Vith, Belgium.

Colonel H. W. Anderson's 1111th Engineer Combat Group was headquartered at Trois Ponts, Belgium, right on the path of Joachim Peiper's fast-moving assault tank group. Despite their inferior numbers, Anderson's engineers put up a stout and effective resistance which crippled Peiper's force. A mine field hastily laid by a squad of the 291st Engineer Combat Battalion before Stavelot delayed Peiper's entry into that town overnight. On the following day, December 18, engineers from that battalion helped deflect the German

tank column away from the critical petroleum depot near Francorchamps, located on the road to Spa where the First Army had its headquarters. A company of the 51st Engineer Combat Battalion then diverted the column again at Trois Ponts by blowing the bridges there and defending the village alone until airborne troops could reinforce it. Peiper's tanks eventually ran out of fuel well short of his Meuse River objective, and Peiper's men had to abandon them.

To the south, elements of the 44th, 103d, and 159th Engineer Combat Battalions delayed portions of the German Fifth and Seventh Armies at the villages of Wiltz, Hosingen and Scheidgen in Luxembourg, before German forces over-

whelmed their positions. While ultimately unsuccessful, the defense undertaken by these engineer units delayed enemy forces long enough to permit American infantry, airborne and armored units to come to the defense of critically located Bastogne. Engineer troops also fought before Bastogne, some using anti-tank weapons with which they had no experience. Private Bernard Michin of the 158th Engineer Combat Battalion waited until an enemy tank came within 10 yards of him before having sufficient assurance of his target to fire a bazooka at it. The resulting explosion temporarily blinded him. He rolled into a ditch and, hearing enemy machinegun fire, lobbed a hand grenade toward its source. The firing stopped abruptly. Michin was awarded a Distinguished Service Cross.



U.S. Army Corps of Engineers

Members of 166th Engineers, sanding a highway with mechanical spreader. Near Wiltz, Luxembourg—1945.

Telling It Like It Is

Some folks accuse Army engineers of patting themselves on the back. If, at times, they do seem boastful, it may be because they have something to boast about.

At a convention of the American Historical Association in the late 1940s, Dr. O. J. Clinard, then the Corps of Engineers' chief historian, was in a cocktail lounge with friends. After a few drinks, Clinard started extolling the glories of the Corps and was soon reeling off a list of engineer "greats":

Sylvanus Thayer, "father of West Point"

John C. Frémont, "pathfinder of the West"

Gouverneur K. Warren, hero of Gettysburg

George W. Goethals, builder of the Panama Canal

Charles G. Dawes, vice president of the U.S. under Coolidge
Lucius D. Clay, post-war governor of Germany

At that, a friend broke in: "Hold on, old buddy. Next you'll be telling us that Robert E. Lee and Douglas MacArthur—our greatest soldiers—were Army engineers."

Clinard beamed.

"Go look 'em up," he said.



Engineers operate infantry assault ferry across the Neckar River in Heilbronn, Germany, April 1945.



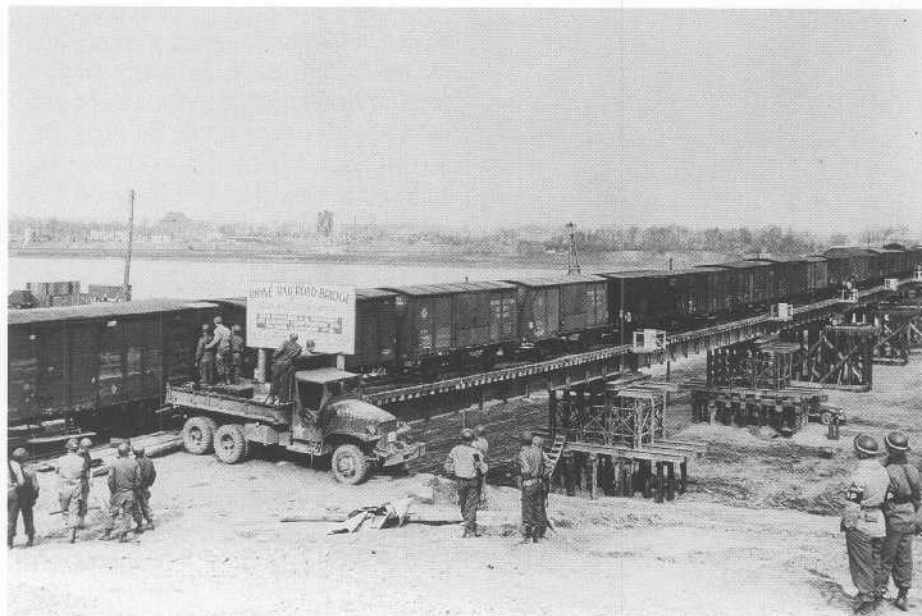
Placing explosive charges on concrete tank barriers along the Siegfried Line, October 1944.

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American forces pushed a badly weakened German army out of the Ardennes in January 1945 and advanced to the river barriers of the Roer and Rhine. Relying on Army engineer bridging skills, the U.S. Army crossed the Roer on February 23, 1945, before floodwaters released by the breaking of upstream dams had subsided, thus surprising the Germans and permitting a rapid American advance. Engineers also played a critical role in the surprising capture of the Ludendorff railroad bridge across the Rhine at Remagen on March 7. As elements of the armored combat command under career engineer officer Brigadier General William M. Hoge, Jr., approached the bridge that afternoon, the Germans set off a charge of dynamite in an unsuccessful attempt to destroy the span. Risking a new explosion, Lieutenant Hugh Mott, Sergeant Eugene Dorland and Sergeant John Reynolds, all members of Company B, 9th Armored Engineer Battalion, ran onto the bridge in the company of assault infantrymen. The engineers first located four 30-pound packages of explosives tied to I-beams under the decking, cut these free, and sent them splashing into the Rhine. After the infantry had cleared the far-shore bridge towers, Sergeant Dorland found the master switch for some 500 pounds of intended bridge demolition explosives, and he quickly shot out the heavy wires leading from it. Lieutenant Mott then directed under continuing heavy enemy fire the repair of the bridge's planking, and seven hours later he reported that tanks could cross.

While nine U.S. Army divisions crossed the Rhine at Remagen, most U.S. forces crossed that broad river in assaults in late March 1945 that were supported by the combat



The "Robert Gouldin" railway bridge across the Rhine River in Germany, built by Army Engineers in ten days in early April 1945.



First jeep to cross ponton bridge over the Meuse near Houx, Belgium, September 1944.

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bridge-building endeavors of the Corps of Engineers. Engineer boatmen piloted Navy landing craft to carry assault units across the swift-flowing Rhine. Behind them other engineers began installing numerous heavy ponton and treadway bridges that would securely tie the assaulting troops to their sources of supply. Third Army engineers built a 1,896-foot-long treadway bridge across the Rhine at Mainz under combat conditions. Further south, Seventh Army engineers completed in a scant nine-and-a-quarter hours a 1,047-foot ponton bridge across the Rhine at Worms. Heavy enemy fire delayed completion of some bridges and exacted casualties. Captain Harold Love, commander of an engineer treadway bridge company, was killed when the treadway section he was ferrying to a partially completed bridge at Milchplatz was struck by a German shell. After crossing the Rhine, the Western Allies pushed rapidly across Germany toward their rendezvous with the Russians at the Elbe River. When the Soviet army arrived in Magdeburg in May, they found that Ninth Army engineers had already on April 13 built a treadway bridge across the Elbe at Barby 15 miles south of that east German city.

In the fighting against Japanese forces in the Pacific U.S. Army engineers distinguished themselves notably during the amphibious landings that they supported. The engineer boat and shore regiments of the 2d, 3d and 4th Engineer Special Brigades directed a series of landings on the north coast of New Guinea and on nearby New Britain, Los Negros, Biak and Morotai Islands as U.S. and Australian forces advanced by sea in a step-by-step fashion toward their October 1944 return to Leyte Island in the Philippines. The engineer boatmen who brought ashore a task force of the 41st Infantry Division at Nassau Bay, New Guinea, on June 30,

1943, found themselves engaged in hand-to-hand combat with a much larger Japanese force assaulting the beaches just one day after the landing. Demonstrating their skill with knife and bayonet, the engineers held their portion of the beach perimeter. After the Allies captured the Japanese base at Finschhafen three months later, U.S. Army shore engineers operating the beach depot two miles north of that New Guinea town were surprised by a Japanese landing attempt before dawn on October 17, 1943. Here engineer gunner Junior Van Noy, a 19-year-old private from Idaho, refused to heed calls to withdraw from his shoreside machine gun position despite heavy enemy attacks on it with grenades, flame throwers, and rifle fire. Van Noy managed to expend his entire stock of ammunition on the fast-approaching Japanese before succumbing to enemy fire. He is thought to have alone killed at least half of the 39 enemy troops that had disembarked. Van Noy was honored with a posthumous award of the Medal of Honor.

Engineer combat forces also participated in maneuver warfare on land against the Japanese. On May 29-30, 1943, the Japanese that had been surrounded by U.S. Army forces on Attu Island in the Aleutians attempted to break through the portion of the American lines held by an engineer combat company, but they were decisively repulsed. The unit killed 53 of the enemy while having only one officer killed and one enlisted man wounded in the battle. In the Philippines, the 302d Engineer Combat Battalion, responsible for road maintenance across rice paddies and swamps near Ormoc on Leyte, built or reinforced 52 bridges for tank traffic in mid-December 1944, generally working under small-arms and mortar fire, and contributed men and armored bulldoz-

ers to flush enemy troops out of their foxholes in the bamboo thicket. In northern Luzon and on Mindanao in the Philippines in early 1945 divisional engineer battalions completed essential road and bridge-building projects in difficult mountainous terrain that sometimes rose higher than 4,000 feet above sea level. The 106th Engineer Combat Battalion on Mindanao constructed a 425-foot infantry support bridge across the Pulangi River and, encountering a gorge 120 feet across and 35 feet deep, blasted out its sides to create in a speedy fashion a crude rock bridge. Much of the engineer construction work on Luzon and Mindanao was also interrupted by enemy fire.

During World War II the U.S. Army Corps of Engineers contributed essential military services wherever the U.S. Army was deployed.

Working on a Bailey bridge over the Magampon River, Luzon, the Philippines, April 3, 1945.



Private Junior N. Van Noy.